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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,380	10/03/2003	Wolf-Dietrich Weber	2998P034	3501

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

PHAN, RAYMOND NGAN

ART UNIT PAPER NUMBER

2111

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/678,380	Applicant(s) WEBER ET AL.	
	Examiner Raymond Phan	Art Unit 2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8,11,12,15-20 and 22-25 is/are rejected.
- 7) ☒ Claim(s) 6,9,10,13,14 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Part III DETAILED ACTION

Notice to Applicant(s)

1. This action is responsive to the following communications: amendment filed on March 28, 2006.
2. This application has been examined. Claims 1-25 are pending.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 7-8, 11-12, 15-20, 22-25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Michizono et al. (US No. 6,029,219) in view of Eberle et al. (US Pub No. 2003/0156597).

In regard to claims 1, 7, 18, Michizon et al. disclose a method of arbitrating multiple requests from multiple processors, comprising: identifying one or more initiating processors that present a request or transaction on a first cycle (see col. 5, lines 28-34); filtering out presented transactions from the arbitration process destined to target resources that are currently not available to service a transaction (see col. 5, line 65 through col. 6, line 5); implementing an arbitration process among the remaining presented transactions to select a presented transaction from an initiating processor to an available target resource that wins the arbitration (see col. 6, lines 2-21). But Michizono et al. do not disclose the step of configuring

segments of the pathways in an interconnect in the next cycle to establish a connection between the initiating network resource and the available target network resource that won the arbitration. However Eberle et al. disclose configuring segments of the pathways (i.e. switching) in an interconnect in the next cycle to establish a connection between the initiating node and the available target node that won the arbitration (see para 27-30). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Eberle et al. within the system of Michizono et al. because it would improve the utilization of shared resources and increase the throughput of the system.

In regard to claims 2, 8, Michizono et al. further disclose: determining a destination associated with a target for each presented transaction (see col. 5, line 65 through col. 6, line 5).

In regard to claims 3, 22, Michizono et al. further disclose: cross-referencing the presented transactions from the one or more initiating network resources with target network resources that are currently not available to service a transaction (see col. 6, lines 7, lines 24-64).

In regard to claim 4, Eberle et al. further disclose: sending control signals to control flip flops (i.e. crossbar switch) to configure segmentation of the pathways in the interconnect so that the control flip flops store the control information resulting from the arbitration process (see para 27-28). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Eberle et al. within the system of Michizono et al. because it would improve the utilization of shared resources and increase the throughput of the system.

In regard to claims 11, 19, Michizon et al. disclose a method of arbitrating multiple requests from multiple processors, comprising: a first stage of circuitry to receive incoming transactions from the plurality of initiators (see col. 5, lines 28-35); a second stage of circuitry to pass outgoing transactions to the plurality of target connecting to the interconnect (see col. 5, line 65 through col. 6, line 37); wherein the target (i.e. resource) supply their availability to service a transaction to the arbitration controller (see col. 5, line 65 through col. 6, line 5), and the arbitration controller to implement an arbitration policy that filters out transactions from an arbitration process those transactions from initiator network resources destined to target network resources that are currently not available to service a transaction (see col. 5, line 65 through col. 6, line 5). Michizono et al. do not specifically disclose the interconnect coupled to the plurality of initiators and targets. However Eberle et al. arbitration system for interconnection of initiator nodes and target nodes (see figure 5). Therefore, it would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have combined the teachings of Eberle et al. within the system of Michizono et al. because it would improve the utilization of shared resources and increase the throughput of the system.

In regard to claims 15, 23, Michizono et al. disclose a processor as an initiator (see col. 2, lines 54-62).

In regard to claims 16, 24, even though Michizono et al. or Eberle do not specifically disclose a machine-readable medium having stored thereon information presenting the apparatus of claim 11 however one skilled in the art would have understood that they can choose to have software or program to fulfill their design.

Allowable Subject Matter

6. Claims 5-6, 9-10, 13-14, 19, 21, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an Examiner's statement of reasons for the indication of allowable subject matter: Claims 5, 6, 9, 13-14, 21 are allowable over the prior art of record because the prior arts, cited its entirety or in combination any of the prior art, did not teach the step of configuring the segments of the pathways in the interconnect to pass a payload of information from the initiating network resource to the available target network resource while isolating other segments of the pathways in the interconnect not part of the payload of information transfer between the initiator network resource and the available target network resource (claims 5, 9, 13); transitioning voltage levels on the segments of the pathways in the interconnect to communicate the payload of information to the available target network resource in a cycle after the arbitration results are determined (claims 6, 10); wherein the first stage of circuitry to route an incoming payload of information to a central point and the second stage of circuitry to route the payload of information from the central point (claim 14); wherein the circuitry to receive transactions further comprises: a first stage of circuitry to receive incoming transactions from the plurality of initiator network resources and the first stage includes at least one or more of the filter units to configure segmented pathways in the interconnect; and a second stage of circuitry to pass outgoing transactions to target network resources connecting to the interconnect and the first stage includes at least one or more of the splitter units to configure segmented pathways in the interconnect (claim 19); wherein the circuitry to receive transactions further

comprises one or more merge units, a first control flip flop coupled to a first splitter unit, and a second control flip flop coupled to a first filter unit (claim 21).

Response to Amendment

8. Applicant's arguments, see pages 9-20, filed on March 28, 2006, with respect to the rejections of claims 1-13, 15-18, 20, 22-25 under 35USC103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Michizono et al. and Eberle et al..

Conclusion

9. Claims 1-5, 7-8, 11-12, 15-20, 22-25 are rejected. Claims 6, 9-10, 13-14, 21 are objected.

10. The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure.

Davis et al. (US No. 5,949,789) disclose an arbitration ring for accessing a limited bandwidth switching network.

Shenderovich (US No. 6,976,109) discloses a multi-level and multi-resolution bus arbitration.

Murdock et al. (US No. 6,976,109) disclose an arbiter having programmable arbitration points for undefined length burst access and method.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Raymond Phan, whose telephone number is (571) 272-3630. The examiner can normally be reached on Monday-Friday from 6:30AM- 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Primary, Paul Myers can be reached on (571) 272-3639 or via e-mail addressed to paul.myers@uspto.gov. The fax phone number for this Group is (571) 273-8300.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [raymond.phan@uspto.gov].

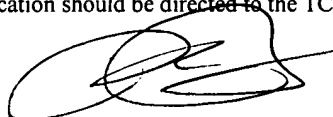
All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 central telephone number is (571) 272-2100.



Raymond Phan
June 9, 2006



MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100